IN THE CLAIMS

Claim 1. (Amended) A method for operating a variable compression ratio internal combustion engine, comprising:
determining a compression ratio operating state of the engine; and
inferring a torque output for the engine based at least in part on the compression ratio operating state of the engine, as well as upon the engine speed and air flow.

Claim 2. (Cancelled)

Claim 3. (Amended) The method according to ~~claim 2~~ claim 1, further comprising the step of modifying the indicated torque value based on operating conditions of the engine.

Claim 4. (Amended) The method according to claim 1~~, further comprising:~~
~~determining an operating speed of the engine;~~
~~determining an air flow of the engine; and~~
wherein said step of inferring the engine torque output comprises the step of determining at least one predefined engine friction loss value based on the engine speed, the air flow and the compression ratio operating state of the engine.

Claim 5. (Original) The method according to claim 4, further comprising the step of modifying the engine friction loss value based on secondary frictional losses of the engine.

Claim 6. (Amended) A method for estimating an indicated torque value for an internal combustion engine having a plurality of compression ratio operating states, comprising:
determining a current compression ratio operating state of the engine;
determining an operating speed of the engine;
determining an air flow of the engine;
determining a ~~determining a~~ baseline indicated torque value based on the engine speed, the air flow and compression ratio operating state of the engine; and
modifying the indicated torque value based on operating conditions of the engine.

Claim 7. (Original) The method according to claim 6, wherein said step of determining the baseline indicated torque value comprises selecting at least one predefined baseline indicated torque value.

Claim 8. (Original) The method according to claim 6, wherein said step of determining the baseline indicated torque value comprises selecting a predefined baseline indicated torque value corresponding to the compression ratio operating state of the engine.

Claim 9. (Original) The method according to claim 6, wherein said step of determining the baseline indicated torque value comprises:
selecting a predefined maximum baseline indicated torque value corresponding to a maximum compression ratio operating state of the engine;
selecting a predefined minimum baseline indicated torque value corresponding to a minimum compression ratio operating state of the engine; and
using said predefined maximum and minimum baseline indicated torque values to derive the baseline indicated torque value corresponding to the compression ratio operating state of the engine.

Claim 10. (Original) A method for estimating an engine friction loss for an internal combustion engine having a plurality of compression ratio operating states, comprising:
determining a current compression ratio operating state of the engine;
determining an operating speed of the engine;
determining an air flow of the engine;
determining a baseline engine friction loss value based on the engine speed, the air flow and compression ratio operating state of the engine; and
modifying the baseline engine friction loss value based on operating conditions of the engine.

Claim 11. (Original) The method according to claim 10, wherein said step of determining the baseline engine friction loss value comprises selecting at least one predefined baseline indicated torque value.

Claim 12. (Original) The method according to claim 10, wherein said step of determining the baseline engine friction loss value comprises selecting a predefined baseline engine friction loss value corresponding to the compression ratio operating state of the engine.

Claim 13. (Original) The method according to claim 10, wherein said step of determining the baseline engine friction loss value comprises:
selecting a predefined maximum baseline engine friction loss value corresponding to a maximum compression ratio operating state of the engine;
selecting a predefined minimum baseline engine friction loss value corresponding to a minimum compression ratio operating state of the engine; and
using said predefined maximum and minimum baseline engine friction loss values to derive the baseline engine friction loss value corresponding to the compression ratio operating state of the engine.

Claim 14. (Original) A method for inferring brake engine torque of an internal combustion engine having a plurality of compression ratio operating states, comprising:
determining a current compression ratio operating state of the engine;
determining an operating speed of the engine;
determining an air flow of the engine;
determining a baseline indicated torque value based on the engine speed, the air flow and compression ratio operating state of the engine;
determining a baseline engine friction loss value based on the engine speed, the air flow and compression ratio operating state of the engine; and
using the baseline indicated torque and baseline engine friction loss values to derive an estimate for the brake engine torque.

Claim 15. (Amended) The method according to claim 14, comprising:
modifying one or both of the baseline indicated torque and the baseline engine friction loss value based on operating conditions of the engine;
using one or both of the modified baseline indicated torque and the baseline engine friction loss values to derive an estimate for the brake engine torque.

Claim 16. (Amended) A system for operating an internal combustion engine having a plurality of compression ratio operating states, the system comprising:
a sensor coupled to the engine for generating a signal representative of engine speed;
a sensor coupled to the engine for generating a signal representative of air flow into the engine; [[and]]
wherein computer program means for inferring a torque output for the engine comprises:
computer program means for determining at least one predefined engine friction loss value based on the engine speed, the air flow and the compression ratio operating state of the engine;
a compression ratio setting apparatus for configuring the engine in selected ones of the compression ratio operating states; and
a controller in communication with said sensors and said compression ratio apparatus, said controller comprising computer program means for inferring a torque output for the engine based at least in part on the compression ratio operating state of the engine, as well as upon the engine speed and airflow, with said computer program means [[for]] determining at least one predefined indicated torque value based on the engine speed, the air flow and the compression ratio operating state of the engine.

Claim 17. (Cancelled)

Claim 18. (Amended)The system according to ~~claim 17~~ claim 16, wherein said controller further comprises computer program means for estimating a brake torque of the engine using the indicated torque and baseline engine friction loss values.

Claim 19. (Amended) An article of manufacture for operating an internal combustion engine having a plurality of compression ratio operating states, the article of manufacture comprising:
a computer usable medium; and
a computer readable program code embodied in the computer usable medium for inferring a torque output for the engine based at least in part on the compression ratio operating state of the engine, as well as upon the engine speed and air flow.